

Exhibit A – Amendment ~~6-7~~
Work Statement
As of ~~July 15, 2009~~ February 23, 2011

Revisions are indicated by bold and underline. Deletions are indicated by strikethrough.

I. Problem Statement

The Energy Commission has conducted since 1997 the Public Interest Energy Research (PIER) program with a process of competitive solicitations to advance science or technology in each of the seven PIER program areas to the benefit California ratepayers. However, opportunity remains for supporting the healthy growth and development in California of new energy technology concepts whose feasibility is not yet sufficiently established to commit research and development (R&D) funds. Therefore, since 1998 the Energy Commission has also conducted the Energy Innovations Small Grant (EISG) Program with the principal goal to fund research in new and innovative energy concepts that, if proven feasible, will provide new paths to achieve California ratepayer benefits through public interest energy research.

II. Goals of the Agreement

The purpose of the Energy Innovations Small Grant (EISG) program is to support the early development of promising new energy technology concepts, a niche not covered by PIER general solicitations that focus primarily on development of established concepts. EISG projects must target one of the PIER RD&D areas to qualify for funding, with the intent that once the feasibility of an innovative energy concept is proven, the appropriate PIER RD&D area will have the opportunity to provide follow on funding to further the success of the project. Therefore, the goals of the EISG program are consistent with those of the other PIER research areas set forth in the Public Resources Code Section 25620 (SB 1250, 2006).

Senate Bill 1250 provided the general goal of the program to develop, and help bring to market, energy technologies that provide increased environmental benefits, greater system reliability, and lower system costs, while providing tangible benefits to electric utility customers through the following investments:

- (1) Advanced transportation technologies that reduce air pollution and greenhouse gas emissions beyond applicable standards, and that benefit electricity and natural gas ratepayers.
- (2) Increased energy efficiency in buildings, appliances, lighting, and other applications beyond applicable standards, and that benefit electric utility customers.
- (3) Advanced electricity generation technologies that exceed applicable standards to increase reductions in greenhouse gas emissions from electricity generation, and that benefit electric utility customers.
- (4) Advanced electricity technologies that reduce or eliminate consumption of water or other finite resources, increase use of renewable energy resources, or improve transmission or distribution of electricity generated from renewable energy resources.

Also, Assembly Bill 1002 (enacted 09/30/2000) granted the California Public Utilities Commission (CPUC) authority and discretion to determine appropriate natural gas funding levels for low-income, energy efficiency and public interest R&D activities. Public Utilities Code

Sections direct the CPUC to establish a natural gas surcharge for public policy programs and annually determine the amounts “required” to administer and fund these programs. The CPUC issued Order Instituting Rulemaking (R.) 02-10-001 on October 3, 2002, to determine broad policy issues and adopt a long-term framework to implement AB 1002. In its August, 2004 Decision 04-08-010, the CPUC designated the Energy Commission as Administrator of the Natural Gas Public Interest Research and Development Program.

This amendment includes additional funding for ~~three~~ one years of ~~electricity~~ natural gas and transportation ratepayer funded public interest research, ~~and one year of natural gas ratepayer funded public interest research.~~ The natural gas component of the EISG program will use the same administrative process and have the same Energy Commission oversight as the current electric ratepayer component of the EISG program.

III. Objectives of the Agreement

The Trustees of the California State University (CSU), herein referred to as “Program Administrator” (PA), shall manage and administer the program so as to reduce Energy Commission staff administrative costs, gain alternative program design insights and provide quality service to program participants. The PA is expected to provide facilities and expertise as described in Tasks 1 through 8. Energy Commission staff will participate in project selection, and projects will be brought to regularly-scheduled Energy Commission business meetings for approval.

Task 1. Maintain Program Management Manual (Support Task)

The Program Administrator Shall:

Maintain, publish and use a Program Management Manual that will serve as the operational plan for the grant program. This will be produced as a “living” document, i.e., one that is intended to be modified and updated as new situations are encountered during the grant program.

At a minimum, the Manual will cover the following items:

1. The Project Selection Process:

Project selection must integrate Energy Commission staff into the process, given the Energy Commission’s role as selection team peer and final conveyor of grant projects to the Energy Commission business meeting. The PA must clearly delineate the process by which proposals are received, screened, evaluated and brought before the Energy Commission RD&D Committee for funding recommendation. The project evaluation and selection process will be integrated with Energy Commission staff. Grants will be recommended for funding multiple times a year at a regularly scheduled Energy Commission business meeting. The project evaluation and feedback process will be used to provide guidance to prospective Awardees regarding the availability of facilities and/or expertise to assist in the work of a particular grant project.

2. Grant Project Management and Support:

The Manual will describe the roles and responsibilities of the PA, the award methods and applicability, and the appropriate resource levels (including anticipated travel) to be allocated to project and contract management to ensure the highest-quality project work.

A structural outline of the Independent Analysis Report (IAR), discussed in Task ~~5b~~8, below, will also be prepared. The IAR will include, at a minimum:

- Statement of the problem,
- An evaluation of the Awardee's performance,
- Research results

3. RD&D Resource Network:

The PA will create and provide a network of facilities and expertise that can be efficiently made available to assist grant projects. The PA will provide a general cost summary and contact information for resources available for grants and a mechanism for the facilities and expertise to be made available to Awardees. At a minimum, personnel and facility resources should include:

a. Expertise in:

Chemical Engineering
Mechanical Engineering
Power/Combustion Engineering
Electrical Engineering
Environmental Impact Analysis
Chemical Analysis, Organic
Chemical Analysis, Inorganic
Physical Sciences
Architectural Design
Computer Modeling
Computer Science
Business Development
Transportation

b. Facilities for work in:

Laboratory, Life Sciences
Laboratory, Physical Sciences
Laboratory, Design/Architecture
Laboratory, Computer Science
Laboratory, Mechanics/Engineering

4. Program Marketing, Applicant Assistance and Support:

The PA will describe the resource levels to be applied to marketing, the lessons learned, the nature and scope of assistance given to applicants in proposal development, and the guidance and assistance provided during and after completion of the grant work.

5. Accounting and Recordkeeping Procedures

The PA will describe procedures that, when applicable, are consistent with generally accepted accounting principles and address the needs of the grant agreements and the contract.

Deliverables:

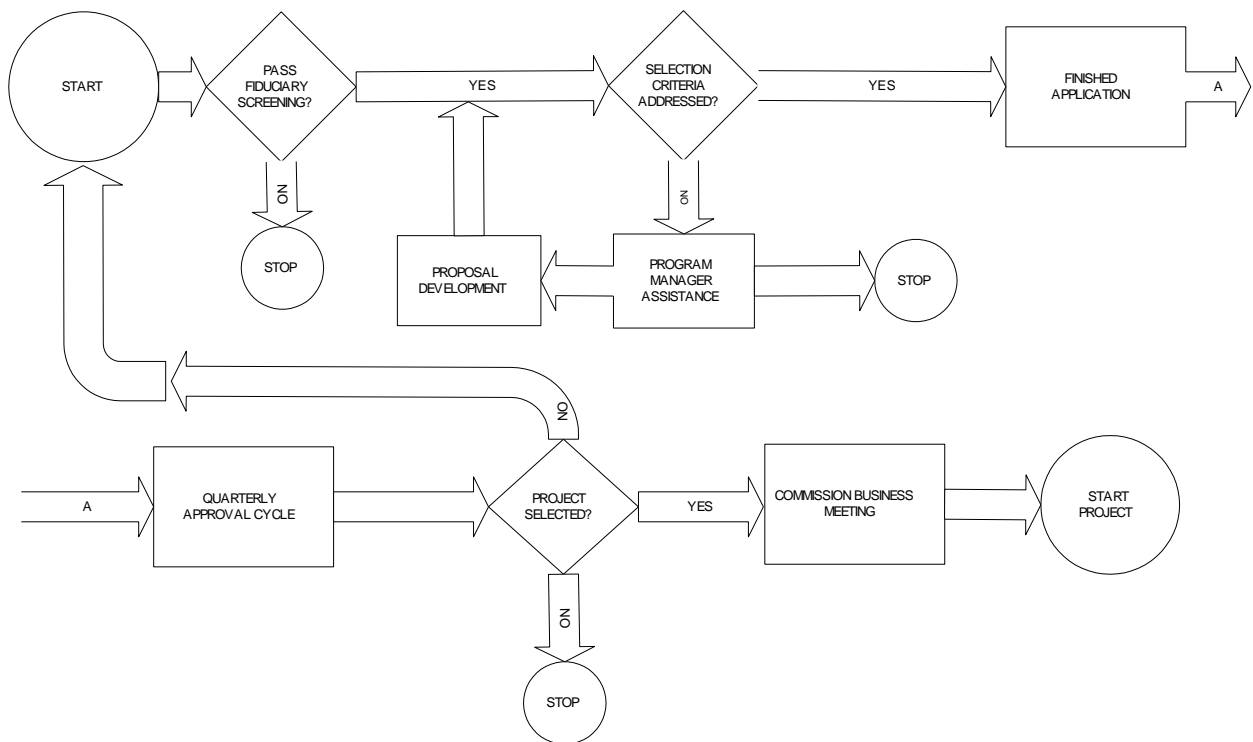
Program Management Manual

Task 2. Maintain Program Application and Proposal Manual and Selection Criteria (Support Task)

Program Administrator Shall:

Maintain, produce, and make available to potential applicants of the program a Grant Program Application and Proposal Manual. The manual must communicate all aspects of the program necessary for an applicant to produce quality grant proposals, including screening and selection criteria. Grant solicitation, application and review shall be an open process wherein, to the extent reasonable, the applicant is assisted by the PA in complying with the technical needs of the program as depicted by the selection criteria established in Task 2.32. The manual should reflect the process in Diagram 1.

Diagram 1
Grant Project Selection Process



Subtask 2.1 Maintain Grant Program Eligibility

The Energy Commission's RD&D Committee decided to make the following groups eligible for PIER electric ratepayer grant funding: Small businesses, academic institutions, non-profits and individuals. The natural gas-funded grants will follow the same eligibility requirements as electricity.

The Program Administrator Shall:

Maintain the established criteria of eligibilities. Any recommended changes and/or revisions will require RD&D Committee approval.

Deliverable:

- If necessary, amended program eligibility criteria report for RD&D Committee approval.

Subtask 2.32 Maintain Project Selection Criteria

The Program Administrator Shall:

Maintain the established project selection criteria using at a minimum the following:

- a. The concept must be energy-related and must propose RD&D activities that will advance science or technology not adequately provided by competitive and regulated markets.
- b. The concept must be intended to provide tangible benefits to California's electricity and natural gas ratepayers (i.e., residential, commercial, industrial, etc.)
- c. The concept must primarily address one of the seven PIER subject areas of building end-use energy efficiency, industrial, agricultural and water end use efficiency, environmentally preferred advanced generation, renewables, energy-related environmental research, energy systems integration, or transportation, or otherwise as identified by the organization of the Energy Research and Development Division within the Energy Commission.
- d. The concept must have a reasonable market-connected goal.
- e. The conceptual basis for the project must require a feasibility analysis for hardware or modeling projects (in the context of its application and within the award amount.)

As part of the project selection process, the PA will establish a relative weighting system for scoring grant applications using the selection criteria. In addition, the PA will identify personnel responsible for scoring proposals and making final recommendations for funding. The PA will ensure that Energy Commission staff are integrated into the project selection and scoring process. The selection criteria and weighting system, and any necessary documentation, will be delivered to the Commission Contract Manager for approval.

- f. Any revisions to the project selection criteria will require RD&D Committee approval.

Deliverable:

- If necessary, an amended Project Selection Criteria report for RD&D Committee approval.

Subtask 2.4~~3~~ Maintain Established Intellectual Property Procedures and Grant Terms and Conditions

The Program Administrator Shall:

- a. Maintain established procedures to protect the intellectual property of the grant applicant and any intellectual property generated by or on behalf of the grant applicant during the project. The procedures include optional assistance in filing for Provisional Patent Protection with the US Patent Office at the expense of the Awardee, and may include non-disclosure agreements and other appropriate means to cover applicable PA staff, faculty and subcontractors.
- b. Maintain established terms and conditions for Grants that include the required terms from Section 20 of the Interagency Agreement, and developed terms for the following:
 - 1) Scope of Work and Purpose (this must include a schedule and deliverables).
 - 2) Dispute procedures
 - 3) Termination. The Energy Commission retains the right to terminate a grant for cause as follows:

- If in the judgment of the Energy Commission, the grant project has significantly deviated from the scope of work described in the Grant Project Recommendation, or
- If by reasonable, professional judgment, the grant project is likely to exceed its Grant Project Recommendation's budget.
- ~~An event as described in Subtask 2.2.~~

The process for grant termination by the Energy Commission is as follows:

- The Commission Contract Manager will provide a ten working day written notice to the PA specifying the problem to be corrected. The PA will provide within 10 working days a written description of the proposed correction to the Commission Contract Manager for approval. In the event the problem cannot be cured to the satisfaction of the Commission Contract Manager, the Energy Commission may terminate the grant with five day's written notice to the PA and the Awardee.
- 4) Status of Parties.
 - 5) Key Personnel
 - 6) Period of Performance (term).
 - 7) Compensation and Maximum Cost.
 - 8) Payment (the agreement must stipulate that a one-time advance of no more than \$500 will be made available under special circumstances).
 - 9) Financial Management Systems and Budget.
 - 10) Records Retention and Audit (this term must stipulate return of funds and audit findings).
 - 11) Utilization of Small Businesses

- 12) Hold Harmless (must include the State of California).
- 13) Insurance.
- 14) Drug-free Workplace
- 15) Certification Regarding Debarment
- 16) Rights in Data
- 17) Assignment
- 18) Laws Governing
- 19) Entire Agreement
- 20) Notices
- 21) Warranty of Originality
- 22) Inclusion of the latest version of Department of General Services Contractor Certification Clause (currently CCC-307)

Deliverable:

- Intellectual Property Procedures and Grant Terms and Conditions report.

Subtask 2.54 Maintain the Existing Grant Program Application and Proposal Manual

The Program Administrator Shall:

Maintain and make available to potential grant applicants the existing Grant Program Application and Proposal Manual. Every effort should be made to keep the manual as brief as possible. Ideally, the text portion of the manual will be no more than 10 pages in length. The manual succinctly communicates to potential applicants all of the information resulting from Tasks 1.1 - 1.4 and the additional following information:

- Objectives and purpose of the PIER program
- Objectives and purpose of the grant program
- Program services and features (e.g., open solicitation process, available facilities, intellectual property protection, etc.)
- All information required for financial/credit screening
- All selection criteria
- The grant selection and award process
- A brief outline of the project management process (to be defined by the PA)

The PA will continue to produce and make available to potential subscribers of the program a Grant Program Application and Proposal Manual. The manual must communicate all aspects of the program necessary for an applicant to produce quality grant proposals, including screening and selection criteria. All portions of the manual will be subject to periodic revisions in order to take advantage of lessons learned and make any other necessary changes. The PA will deliver the Application Manual to the Commission Contract Manager for approval.

Deliverable:

- If necessary, an Amended Grant Program Application and Proposal Manual

Task 3. Conduct Grant Program Solicitations (Support Task)

The Program Administrator Shall:

Periodically conduct solicitations for grant awards using the application manual; find and access resources needed to assist, where necessary, applicants in developing proposals; screen applications for financial and general eligibility; initiate project evaluation and selection processes; and submit selected projects for funding to the Contract Manager.

- a. The PA will release and advertise the Application Manual from Task 2.
- b. Designated staff from the Energy Commission will be part of the PA's selection team for all solicitations. The Energy Commission's role in grant project selection will encompass both the technical and cost elements of the grant award. The participating Energy Commission staff must be satisfied that the cost elements of the grant (facilities, expertise and direct funding) are reasonable and justifiable before recommending the grant award for Energy Commission approval.
- c. The PA will use "Grant Project Recommendations" as the conveyance method for Energy Commission approval of grant awards. The Program Administrator will complete a Grant Project Recommendation for each selected grant project, and will provide a package to the Energy Commission Contract Manager containing recommendations for all grant projects selected for funding. The actual costs of an approved Grant Project Recommendation shall not exceed the funding amount authorized by the full Energy Commission. Each project recommendation shall, at minimum, contain the following:
 - A sequential identification number
 - A funding justification, including a description of the project's innovation
 - A project scope of work, and schedule
 - A project budget showing all proposed expenditures of funds and uses and costs of all facilities and expertise.

The PA shall present facts as required pertaining to these proposed projects to the Energy Commission's RD&D Committee and/or to the full Energy Commission business meeting.

- d. All solicitations will use the information and results from Tasks 2 and 3, with the process as described in sub-tasks (a) through (c) above. The PA will market and advertise the grant program as necessary and process applications using the manual from Task 2.

The PA will conduct multiple solicitations per year as directed by the Commission's Contract Manager, taking into account the number of grant applications received and the status of program administration workload.

Deliverable:

- Grant Project Recommendations for each solicitation released per year.

Task 4. Conduct Grant Program Marketing (Support Task)

The Program Administrator Shall:

Research, determine and conduct program marketing and advertising activities as necessary to promote adequate subscriptions to the program from all eligible client groups. Such activities may include, but are not limited to:

- Newspaper ads
- Trade journal ads
- Program web page
- Regional workshops

Deliverable:

- Grant Program Marketing report and ongoing marketing activities in support of the program consistent with those described in the original Work Statement. This is incorporated into the Annual Report (Task 7 Deliverable)

Task 5 Conduct Grant Project Management (Support Task)

The Program Administrator Shall:

Manage each grant award, providing fiduciary and technical oversight for projects using the guidelines from Task 4. The PA will be the first line of communication with the grant project researchers for all administrative needs. Project management responsibilities shall include:

1. Progress Monitoring and Intervention: Prepare and submit to the Commission Contract Manager quarterly status reports on all active grant projects. The quarterly reports will also cover the same topics listed for the Annual Report (Task 7). The quarterly report shall include sufficient detail on the operating budget to clearly communicate the current status of the budget, including the cumulative expenditures and the current expenditure rate compared to the projected expenditure rate. In addition, each quarterly report will provide a reconciliation of the status of each required deliverable to the schedule for that deliverable.

Intervene to provide appropriate levels of technical or administrative assistance for projects that encounter problems.

Deliverable:

- Quarterly report consistent with Section 13 B of the Standard Agreement.

Task 6 Maintain an Active Technology Transfer Initiative (Research Task)

Approximately 50% of all complete projects funded by the EISG Program gain some form of follow-on funding. For the remaining 50%, some of the barriers to addressing technology transfer can arise during the early stages of the grant work because the necessary insights into the business or application end points may not be available. After project completion, other projects experience difficulty in obtaining funding, licensing or partnerships to carry the project further, perhaps because skills are lacking in preparing the essential elements of a business plan.

The Program Administrator Shall:

Assist and equip EISG awardees, as needed, either early in their projects or after project completion, with the knowledge and tools to move their research products to the next steps. This initiative may use any or all of the following tools to aid in the advancement of promising concepts toward market placement:

- Intellectual property/competitive assessment
- Market assessment
- Business planning
- Business presentation
- Business development leads and linkages.

Task 6a Evaluation and Recommendation of the EISG Technology Transfer Program

The Program Administrator Shall:

Evaluate performance of the Technology Transfer program with recommendations to the RD&D Committee for approval. Recommendations may include, but are not limited to:

- Extend the subcontract agreement, including recommended changes
- Open a new solicitation
- No further technology transfer is warranted within this program

Deliverable:

- Technology Transfer Recommendations Report

Task: 6b Maintain Active Technology Transfer Initiative

The Program Administrator Shall:

- Supply the Technology Transfer Assistance Application Manual to EISG grantees
- Develop and implement specific solicitation to accept applications
- Conduct reviews of completed applications
- Assemble the expertise with appropriate tools to aid EISG grantees, or other technology transfer resources
- Select EISG grantees for assistance and present qualification to the Commission Contract Manager for approval
- Track progress
- Prepare summary report on the assistance provided to the selected grantees and the results obtained from the assistance

Deliverable:

Annual Technology Transfer Assessment

Task: 7 Prepare Annual Reports (Research Task)

The Program Administrator Shall:

Prepare and submit, no later than ~~September 30~~ **November 1** of each year, an Annual Report to be used as part of an annual performance review. The Annual Report shall, at minimum, consist of the following information:

- Status and results of all grant awards
- Accounting of all program administration costs
- Accounting of all grant project resource costs
- Any amendments to the Program Management Manual Grant Project Application and Proposal Manual, and the Technology Transfer Assistance Application Manual

The contents of the Annual Report will be used to assess and review the performance of the PA relative to criteria jointly set by the Contract Manager and the PA. At a minimum, the criteria will include:

- Total applications received for the year
- Number of grants awarded
- Ratio of overhead costs to value of grant awards
- Grant project performance
 - Grant project completions
 - Quality of independent analysis reports
 - Adherence to grant project schedules
 - Advancement of concepts to subsequent development stages
- Technology transfer services provided and effectiveness of the technology transfer activities

Deliverable:

Annual Report due no later than ~~September 30~~ **November 1** of each year.

Task 8. Prepare Independent Assessment Reports (Research Task)

The Program Administrator Shall:

Prepare Independent Assessment Reports (IARs) for each completed grant project.

1. The Grantee's Final Report will be reviewed to determine whether the results warrant preparing an IAR to assist the Grantee in further developing the technology and obtaining follow-on funding. Research and final reports insufficient for the production of an IAR will signify that the project was not completed.
2. The PA will provide the writing, editing and reviewing resources, and the expertise to develop draft IARs for Grantees that meet both Energy Commission publication standards and the professional standards for clear and accurate technical writing such as maintained for the University's technical publications. Members of the PTRB and EISG staff specially qualified for the task will be used to write the IARs to insure that the reports become effective instruments of technology transfer.
3. Draft IAR's sent to the Commission's Contract Manager will require no more than a final read-through to ascertain that standards are being met. Any drafts found necessary to be

returned will be accompanied with comments rather than with detailed edits. EISG will secure the expertise to provide an acceptable final product without the need for detailed comments from the Contract Manager. Any backlog of independent assessments will be handled in the same manner.

4. The IARs will include recommendations to the PTRB regarding follow-on technology transfer assistance funding and/or the need for further assessments of the research results and their business potential.
5. The PA will provide a reconciliation of IAR costs and publications in the quarterly reports. The reconciliation must include cumulative cost of completed IARs, cumulative cost of IARs for the total completed and under development, IARs published in current quarter, cumulative IAR publications, number of final reports delivered in prior and current quarters, number of initial draft IARs delivered in current quarter, the number required to be submitted in the next quarter, and time to publication for IARs published in current quarter.

Deliverables:

- Draft Independent Assessment Reports for each completed grant project
- Draft Final Independent Assessment Reports for each completed grant project
- Final Independent Assessment Reports for each completed grant project.